

**Claims:**

1.           A device to improve the working of an inline catalytic converter, the device affecting the flow of hot exhaust gasses to improve the transfer of heat from the exhaust gasses to the catalytic converter and including a particular internal profile which contacts the exhaust gasses and absorbs heat from the exhaust gasses, the profile comprising at least a pair of recesses or cavities to facilitate increased turbulence of the gasses to improve heat absorption.
2.           The device as claimed in claim 1, which comprises a particular internal profile which contacts the exhaust gasses and absorbs heat from the exhaust gasses, the profile comprising a plurality of recesses or cavities to facilitate increased turbulence of the gasses to improve heat absorption.
3.           The device as claimed in claim 2, wherein the device comprises a plurality of spaced apart members that extend at least partially into the exhaust stream, the spacing between the members comprising at least some of the recesses or cavities, the spaced apart members absorbing heat from the exhaust gases and transmitting at least part of the absorbed heat to at least part of the catalytic converter.
4.           The device as claimed in claim 3 which is positioned downstream from the catalytic converter.
5.           The device of claim 3, which comprises a plurality of spaced apart members that extend at least partially into the exhaust stream, at least some of the members being provided with an opening extending therethrough through which at least some of the exhaust gases can pass.
6.           The device of claim 5, wherein the members comprise circular disks containing a central opening through which exhaust gases can pass.
7.           The device of claim 6, wherein between 12-20 members is provided.
8.           The device of claim 7, wherein the spacing between the members is between 5-20 millimetres.
9.           The device of claim 8, wherein a gap is provided between the catalytic converter and the first member of the device, the gap being between 5-100 millimetres in length.
10.          The device of claim 9, wherein the gap is approximately 25 millimetres in length.

11. A device to improve the working of an inline catalytic converter, the device affecting the flow of hot exhaust gasses to improve the transfer of heat from the exhaust gasses to the catalytic converter, which comprises a valve which is operable between an open position and a closed or partially closed position, the valve  
5 being downstream from the catalytic converter and functioning to increase the resident time of the exhaust gas about the catalytic converter especially when the engine is idling.

12. The device of claim 11 which is positioned downstream from the catalytic converter.

10 13. The device of claim 12 which comprises an end flap that extends over a tailpipe in the exhaust system and which is movable between a closed position and an open position by the exhaust gases.

14. The device of claim 12 which comprises a flap that extends inside the exhaust system and which is movable between a closed position and an open position  
15 by the exhaust gases.

15. The device of claim 12 that comprises a gate inside the exhaust system and which is movable between an extended closed position and a retracted open position by the exhaust gases and which is biased into the extended closed position.

16. The device of claim 12, wherein the valve is movable between a closed  
20 position and an open position depending on the temperature of the exhaust gases, with increased temperature causing the valve to move to the open position.